Omicron: Implications for clinical management

February 10th, 2022

Clinical Management Team
IMST for the COVID-19 response
Pan American Health Organization
Scope of the presentation

- Clinical symptoms
- Risk of hospitalization, disease severity and mortality
- Pathogenesis
- Considerations for clinical providers
- Summary

Rapid Search

Pubmed, Embase, Epistemonikos, MedRxiv, BioRxiv
Reports and publications from Public Health Agencies, app studies, etc;

BE AWARE. PREPARE. ACT.
www.paho.org/coronavirus
Symptoms

- Early reports associate Omicron with fewer lower and more upper respiratory tract symptoms
- Loss of smell and taste are less common
- Presence and severity of symptoms can be affected by vaccination status, comorbidities, age, prior infection.

Source: https://joinzoe.com/learn/omicron-symptoms

OMICRON-ASSOCIATED CHANGES IN SARS-COV-2 SYMPTOMS IN THE UNITED KINGDOM. (Vihta et al., 2022)
• Consider other circulating viruses with similar symptomatology.

• Croup or Tracheitis - Clinical phenotype of pediatric infection by the Omicron

• Understanding new clinical phenotypes will support therapeutic decision making and health resource planning
Early studies suggest that Omicron has reduced risk of hospitalization and disease severity compared to other variants.

<table>
<thead>
<tr>
<th>Country of study</th>
<th>Risk of hospitalization</th>
<th>Risk of ICU admission</th>
<th>Risk of mortality</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>South Africa</strong></td>
<td>aOR 0.2, [0.1; 0.3]</td>
<td>-</td>
<td>-</td>
<td>(Wolter et al., 2022).</td>
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<tr>
<td>South Africa</td>
<td></td>
<td>-</td>
<td>aHR 0.27 [0.19; 0.38]</td>
<td>(Davies et al., 2022)</td>
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<tr>
<td>Portugal (BA.1 vs Delta)</td>
<td>aHR 0.25 [0.15; 0.43]</td>
<td>-</td>
<td>aHR 0.14 [0.00; 1.12]</td>
<td>(Peralta-Santos et al., 2022)</td>
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<tr>
<td>UK (BA.1 VS Delta)</td>
<td>aHR 0.55 [0.51; 0.59]</td>
<td>-</td>
<td>-</td>
<td>(Ferguson et al., 2021)</td>
</tr>
<tr>
<td>Scotland</td>
<td>0.32 [0.19; 0.52]</td>
<td>-</td>
<td>-</td>
<td>(Sheikh et al., 2021)</td>
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<tr>
<td>France (Omicron vs Delta)</td>
<td></td>
<td>reduced by 64%</td>
<td>-</td>
<td>(Vieillard-Baron et al., 2022)</td>
</tr>
<tr>
<td>Canada (BA.1 vs Delta)</td>
<td>HR 0.35, [0.26, 0.46]</td>
<td>HR 0.35 [0.26; 0.46]</td>
<td>-</td>
<td>(Ulloa et al, 2021)</td>
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<tr>
<td>USA (vs Alpha &amp; Delta)*</td>
<td>OR 0.21 [0.18; 0.22]</td>
<td>OR 0.15 [0.11; 0.21]</td>
<td>-</td>
<td>(Christensen et al., 2022)</td>
</tr>
<tr>
<td>USA</td>
<td>aHR 0.48 (0.36; 0.64)</td>
<td>aHR 0.26 (0.10, 0.73)</td>
<td>HR 0.09 [0.01; 0.75]</td>
<td>(Lewnard et al., 2022)</td>
</tr>
</tbody>
</table>

*Peer reviewed; aOR- Adjusted Odds Ratio; aHR- Adjusted Hazard Ratio; OR- Odds Ratio; BA.1- Omicron
Omicron (BA.1) SARS-CoV-2 variant is associated with reduced risk of hospitalization and length of stay compared with Delta (B.1.617.2). (Peralta-Santos et al., 2022)
Considerations and limitations

• Several weeks for the accumulation of clinical outcomes

• Improved treatment options

• Prior infections/Vaccination

• Under-ascertained reinfections

• With the available data, it is not possible to disentangle the relative contributions of high levels of population immunity versus lower intrinsic virulence to the observed lower disease severity.

• The clinical profile of Omicron may change with upcoming evidence
• Omicron seems to prefer infecting and replicating in the upper respiratory tract, compared to Delta and other strains which prefer the lower respiratory tract.

• Omicron variant replicates faster than the original SARS-CoV-2 virus and Delta variant in the human bronchus (Chan et al., 2021)

• Early studies from animal models show a reduced pathogenesis.
• Omicron-infected animals show fewer clinical signs and have less severe disease
• Omicron infection still led to lung pathology, including patchy consolidation, bronchiolar epithelial degeneration, and endothelialitis
Considerations for clinical providers

• Administer clinical care of patients with COVID-19 infected with any SARS-CoV-2 variant according to evidence-based guidelines.
• Adapted appropriately for local context and resource settings
• Coincident with other circulating viruses, changes in symptomatology may influence clinical and testing policy.
• Use of symptom base testing algorithms will be challenging
Considerations for clinical providers

• High rates of infection in the community have overwhelmed health-care systems.

• High absolute numbers of hospitalizations and deaths.

• Pandemic health care burden exacerbated by non-COVID admissions, testing positive, requiring isolation rooms and PPE.

• In-hospital severity indicators should continue to be monitored for changes or differential effects among subpopulations.

• More data is required, and we encourage member states to contribute to The WHO Global Clinical Platform for COVID-19
Summary

• Omicron appears to have a reduced risk of severe disease and hospitalizations. Some of this reduction is likely a result of high population immunity.

• The fundamentals of the clinical management in the response to COVID-19 has not changed.

• Significant numbers of hospitalized patients as a result of the high levels of transmission.

• People at greater risk of COVID-19 include those:
  (e.g., Unvaccinated, with obesity, older age, hypertension, Diabetes mellitus, cardiac disease, chronic disease, cerebrovascular disease, immunosuppression)

• Pediatric cases - severe illness seen with chronic medical condition or co-infections with respiratory disease (RSV, Influenza, parainfluenza)

• Implementation of concurrent prevention strategies including vaccination, masking, and appropriate infection mitigation strategies.
Thank you
References:


- Antoine Vieillard-Baron, Rémi Flicoteaux, Maud Salmona, Djillali Annane, Soufia Ayed, Elie Azoulay, et al, EPIDEMIOLOGICAL CHARACTERISTICS AND SEVERITY OF OMICRON VARIANT CASES IN THE APHP CRITICAL CARE UNITS. medRxiv 2022.01.25.22269839; doi: https://doi.org/10.1101/2022.01.25.22269839